KA01238C/07/EN/06.21
71525402
2021-01-31

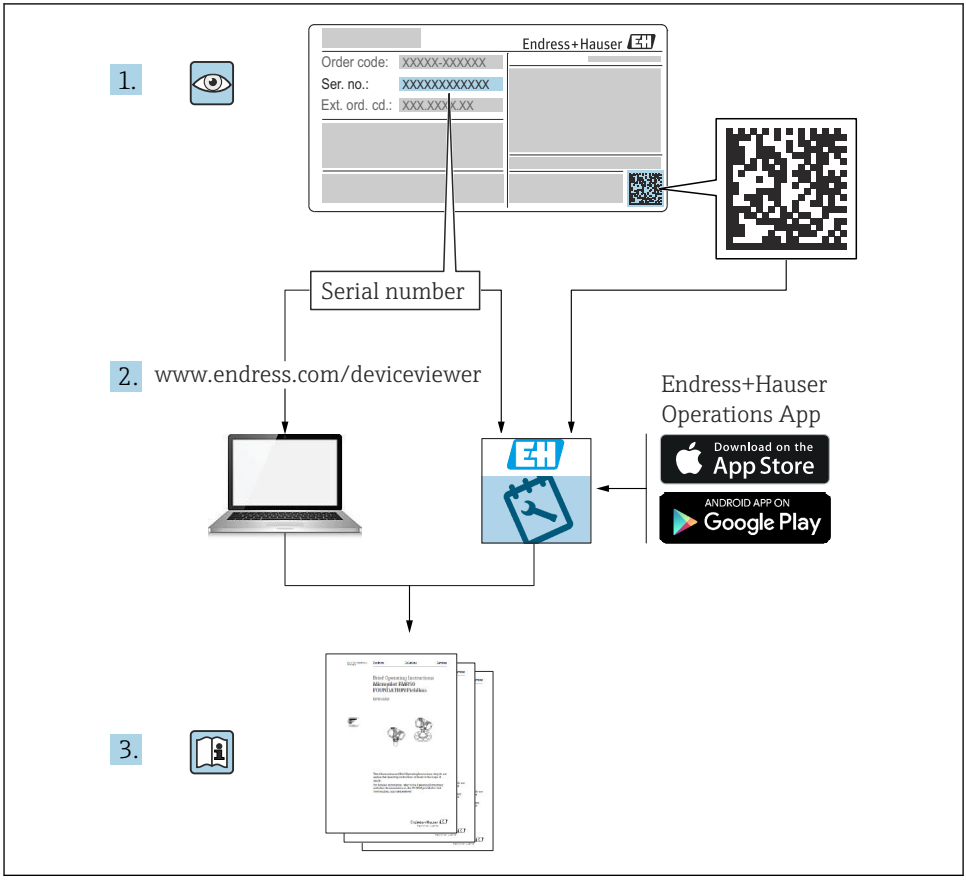
Brief Operating Instructions
Liquiline System CA80COD

Colorimetric analyzer for chemical oxygen demand

These instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.

Detailed information on the device can be found in the Operating Instructions and in the other documentation available at:
- www.endress.com/device-viewer
- Smart phone/tablet: Endress+Hauser Operations App

Endress+Hauser
People for Process Automation


1.
Endress+Hauser
Order code: XXXXX-XXXXXX
Ser. no.: XXXXXXXXXXXX
Ext. ord. cd.: XXX.XXX-XXX
Serial number
2.
www.endress.com/deviceviewer
Endress+Hauser
Operations App
Download on the
App Store
ANDROID APP ON
Google Play
3.

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1 About this document

1.1 Warnings

Structure of information	Meaning
DANGER **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **will** result in a fatal or serious injury.
WARNING **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **can** result in a fatal or serious injury.
CAUTION **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or more serious injuries.
NOTICE **Cause/situation** If necessary, Consequences of non-compliance (if applicable) ▶ Action/note	This symbol alerts you to situations which may result in damage to property.

1.2 Symbols

- Additional information, tips
- Permitted or recommended
- Not permitted or not recommended
- Reference to device documentation
- Reference to page
- Reference to graphic
- Result of a step

1.3 Symbols on the device

- Reference to device documentation
- Caution: Hazardous voltage
- Warning: Health hazard
- Warning: Acute toxicity


Warning: Oxidizing


Warning: Corrosive


Warning: Hazardous to the aquatic environment


Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

1.4 Documentation

The following instructions complement these Brief Operating Instructions and are available on the product pages on the Internet:

- Operating Instructions Liquiline System CA80COD
  - Device description
  - Commissioning
  - Operation
  - Software description (excluding sensor menus; these are described in a separate manual - see below)
  - Device-specific diagnostics and troubleshooting
  - Maintenance
  - Repair and spare parts
  - Accessories
  - Technical data
- Operating Instructions Memosens, BA01245C
  - Software description for Memosens inputs
  - Calibration of Memosens sensors
  - Sensor-specific diagnostics and troubleshooting
- Guidelines for communication via fieldbus and web server
  - PROFIBUS, SD01188C
  - Modbus, SD01189C
  - Web server, SD01190C
  - EtherNet/IP, SD01293C
- Special documentation on reagents:
  CY80COD, 01583C

2 Basic safety instructions

2.1 Requirements for personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to carry out the specified activities.
- The electrical connection may be performed only by an electrical technician.
- The technical personnel must have read and understood these Operating Instructions and must follow the instructions contained therein.
- Faults at the measuring point may only be rectified by authorized and specially trained personnel.

Repairs not described in the Operating Instructions provided must be carried out only directly at the manufacturer's site or by the service organization.

2.2 Designated use

The Liquiline System CA80COD is a wet-chemical analyzer for the almost continuous determination of the chemical oxygen demand (COD) in liquid media.

The analyzer is designed for use in the following applications:
- Monitoring of the wastewater treatment plant inlet
- Control of municipal wastewater treatment
- Monitoring of industrial wastewater
- Control of industrial wastewater treatment

Use of the device for any purpose other than that described poses a threat to the safety of people and of the entire measuring system, and is therefore not permitted. The manufacturer is not liable for damage caused by improper or non-designated use.

2.3 Workplace safety

As the user, you are responsible for complying with the following safety conditions:
- Installation guidelines
- Local standards and regulations
- Regulations for explosion protection

Electromagnetic compatibility
- The product has been tested for electromagnetic compatibility in accordance with the applicable international standards for industrial applications.
- The electromagnetic compatibility indicated applies only to a product that has been connected in accordance with these Operating Instructions.

2.4 Operational safety

Before commissioning the entire measuring point:

1. Verify that all connections are correct.
2. Ensure that electrical cables and hose connections are undamaged.

3. Do not operate damaged products, and protect them against unintentional operation.
4. Label damaged products as defective.

During operation:

1. If faults cannot be rectified:
   products must be taken out of service and protected against unintentional operation.
2. Keep the door closed when not carrying out service and maintenance work.

⚠ CAUTION

Activities while the analyzer is in operation

Risk of injury and infection from medium!

- ▶ Before you release any hoses, make sure that no actions, such as the pumping of sample, are currently running or are due to start shortly.
- ▶ Wear protective clothing, goggles and gloves or take other suitable measures to protect yourself.
- ▶ Wipe up any spilt reagent with a disposable tissue and rinse with clear water. Then dry the cleaned areas with a cloth.

⚠ CAUTION

Risk of injury from door stop mechanism

- ▶ Always open the door fully to ensure the door stop engages properly.

2.5 Product safety

2.5.1 State-of-the-art technology

The product is designed to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate. The relevant regulations and international standards have been observed.

Devices connected to the analyzer must comply with the applicable safety standards.

2.5.2 IT security

We only provide a warranty if the device is installed and used as described in the Operating Instructions. The device is equipped with security mechanisms to protect it against any inadvertent changes to the device settings.

IT security measures in line with operators' security standards and designed to provide additional protection for the device and device data transfer must be implemented by the operators themselves.

3 Incoming acceptance and product identification

3.1 Incoming acceptance

1. Verify that the packaging is undamaged.
   ↳ Notify the supplier of any damage to the packaging.
   Keep the damaged packaging until the issue has been resolved.
2. Verify that the contents are undamaged.
   ↳ Notify the supplier of any damage to the delivery contents.
   Keep the damaged goods until the issue has been resolved.
3. Check that the delivery is complete and nothing is missing.
   ↳ Compare the shipping documents with your order.
4. Pack the product for storage and transportation in such a way that it is protected against impact and moisture.
   ↳ The original packaging offers the best protection.
   Make sure to comply with the permitted ambient conditions.

If you have any questions, please contact your supplier or your local Sales Center.

NOTICE

Incorrect transportation can damage the analyzer

▶ Always use a lifting truck or a fork-lift to transport the analyzer.

3.2 Product identification

3.2.1 Nameplate

Nameplates can be found:
- On the inside of the door on the bottom right, or on the front in the bottom right-hand corner
- On the packaging (adhesive label, portrait format)

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Firmware version
- Ambient and process conditions
- Input and output values
- Measuring range
- Activation codes
- Safety information and warnings
- Certificate information
- Approvals as per order version

▶ Compare the information on the nameplate with the order.

3.2.2 Product identification

Product page

www.endress.com/ca80cod

Interpreting the order code

The order code and serial number of your product can be found in the following locations:
- On the nameplate
- In the delivery papers

Obtaining information on the product

1. Go to www.endress.com.
2. Call up the site search (magnifying glass).
3. Enter a valid serial number.
4. Search.
   ↳ The product structure is displayed in a popup window.
5. Click on the product image in the popup window.
   ↳ A new window (**Device Viewer**) opens. All of the information relating to your device is displayed in this window as well as the product documentation.

3.2.3 Manufacturer address

Endress+Hauser Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

3.3 Scope of delivery

The scope of delivery comprises:
- 1 analyzer in the version ordered with optional hardware
- 1 x Brief Operating Instructions (hard copy)
- 1 x Maintenance Manual
- Suction strainer
- Cleaning brush for the dosing unit
- Optional accessories

► If you have any queries:
Please contact your supplier or local sales center.

3.4 Certificates and approvals

3.4.1 CE mark

The product meets the requirements of the harmonized European standards. As such, it complies with the legal specifications of the EU directives. The manufacturer confirms successful testing of the product by affixing to it the CE mark.

3.4.2 Other standards and guidelines

EAC

The product has been certified according to guidelines TP TC 004/2011 and TP TC 020/2011 which apply in the European Economic Area (EEA). The EAC conformity mark is affixed to the product.

4 Installation

⚠ CAUTION

Incorrect transportation can cause injury and damage the device

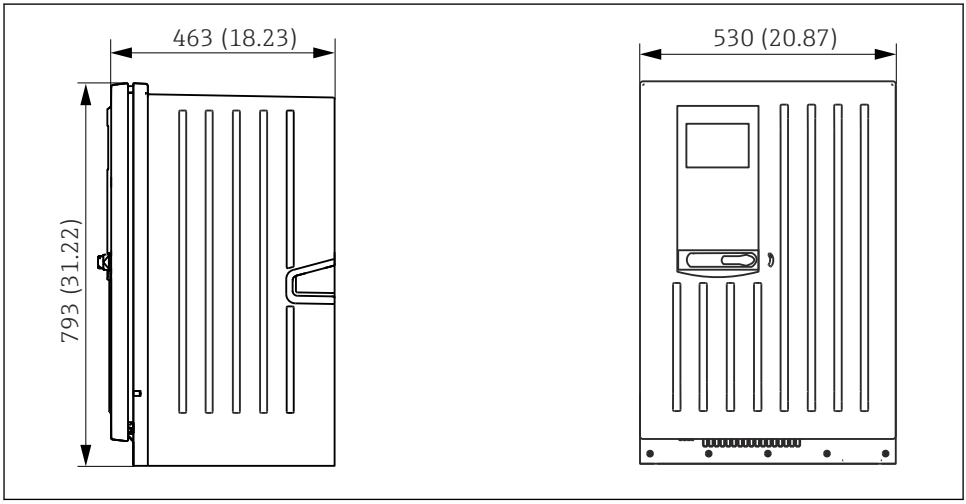
- ▶ Always use a lifting truck or a fork-lift to transport the analyzer. Two people are needed for the installation.
- ▶ Lift the device by the recessed grips.

4.1 Installation conditions

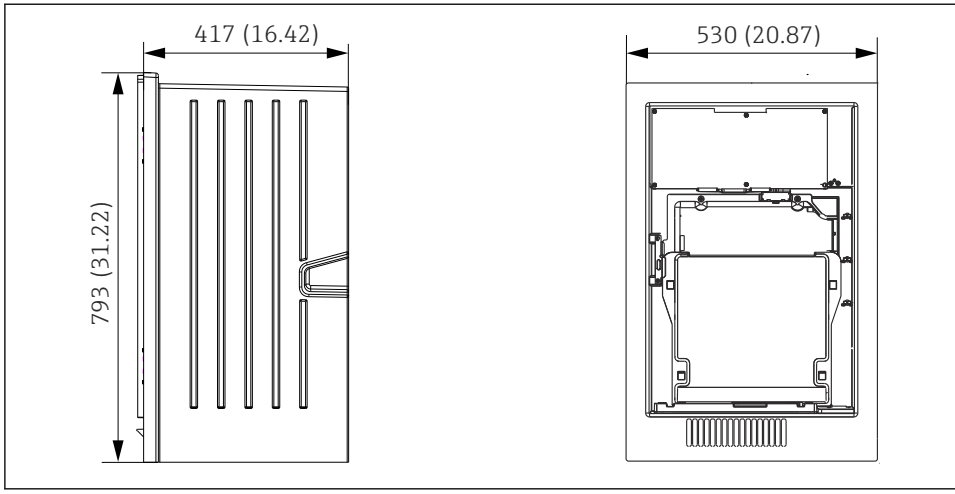
The device can be installed in the following ways:

- Mounted on a wall
- Mounted on a base
- Post mounting / on a post (accessory)

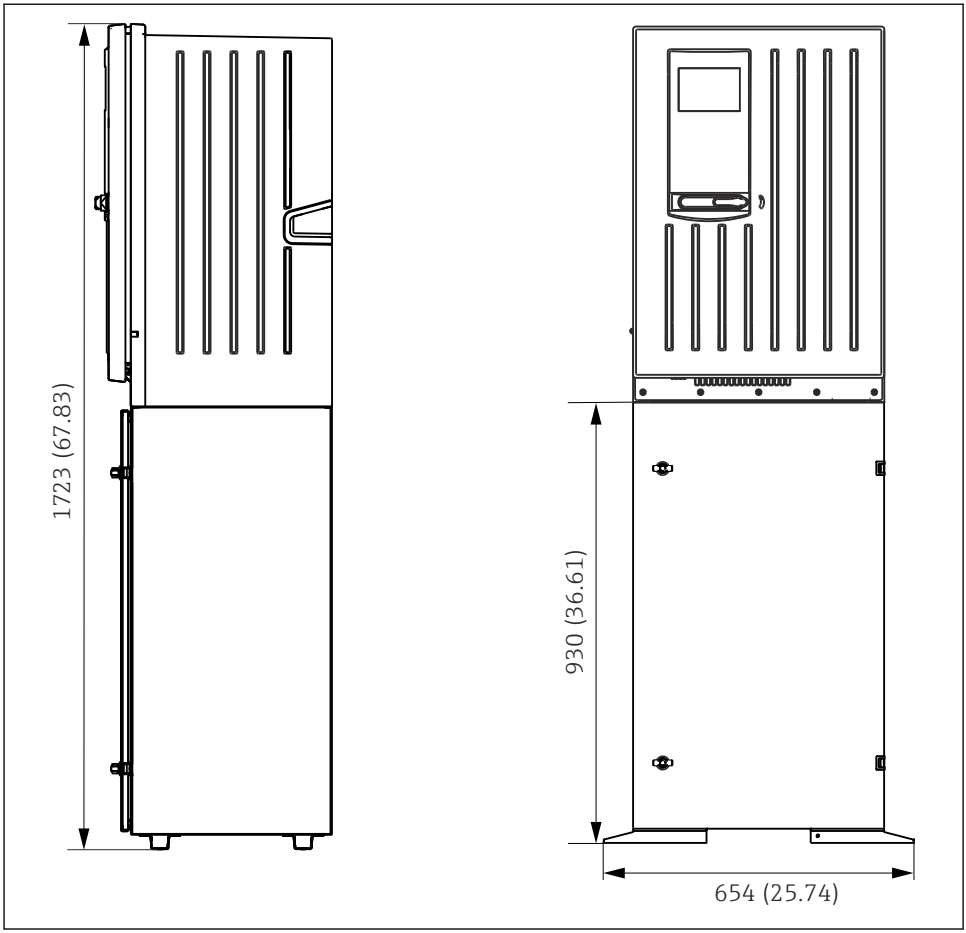
4.1.1 Dimensions



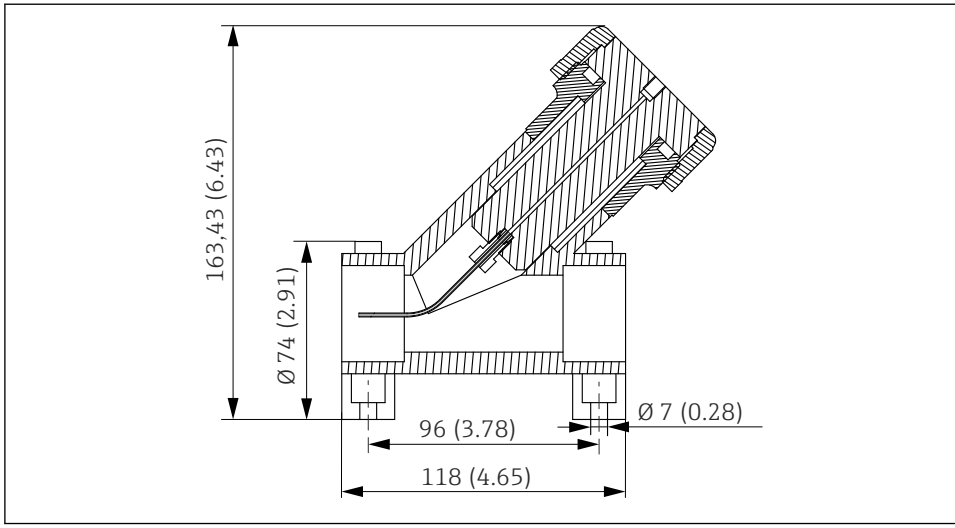
1 *Liquiline System CA80 closed version, dimensions in mm (in)*



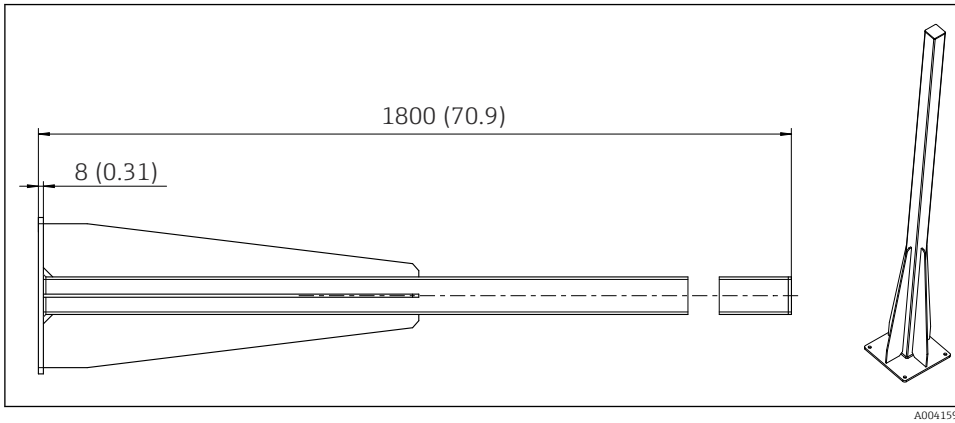
2 Liquiline System CA80 open version, dimensions in mm (in)



3 Liquiline System CA80 with base, dimensions in mm (in)



4 Y strainer (optional), dimensions in mm (inch)



5 Post (accessory) for "Outdoor" version, dimensions in mm (inch)

4.1.2 Mounting location

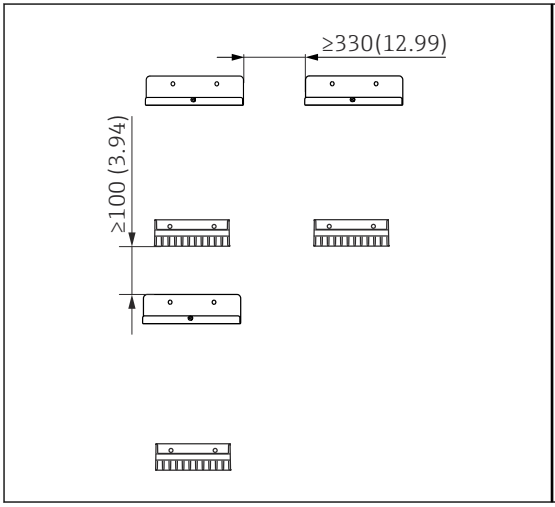
Note the following when erecting the device:

- If mounting on a wall, make sure that the wall has sufficient load-bearing capacity and is fully perpendicular.
- If mounting on a base, erect the device on a level surface.
- Protect the device against additional heating (e.g. from a heating system).
- Protect the device against mechanical vibrations.

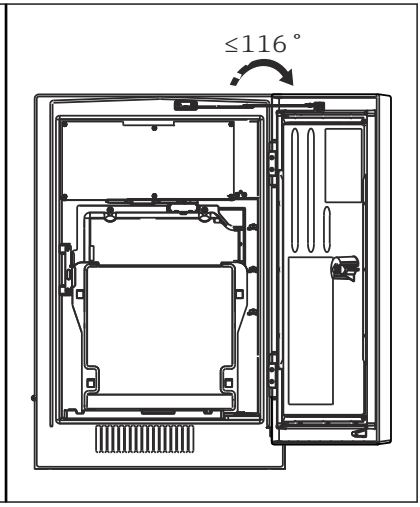
- Protect the device against corrosive gases, e.g. hydrogen sulfide (H_2S) .
- Make sure to pay attention to the maximum height difference and the maximum distance from the sampling point.
- Ensure that the unit can drain freely, without any siphoning effects.
- Make sure air can circulate freely at the front of the housing.
- Open analyzers (i.e. analyzers that are supplied without a door) may only be erected in closed areas or in a protective cabinet or similar facility.

4.1.3 Spacing requirements when mounting

Spacing required for installing analyzer

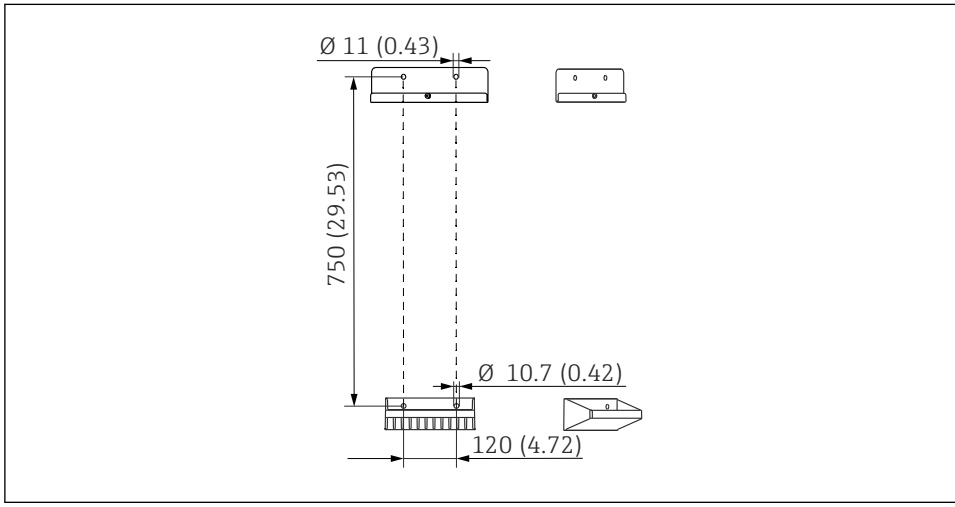


6 Minimum spacing required for mounting. Engineering unit mm (in).



7 Maximum opening angle

Spacing required for installing wall-mount version



8 Holder unit dimensions. Engineering unit mm (in)

4.2 Mounting the analyzer

4.2.1 Mounting the analyzer on a wall

CAUTION

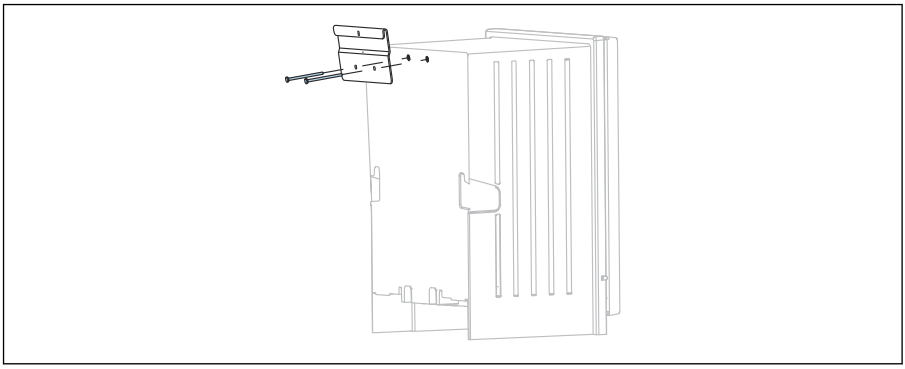
Incorrect installation can cause injury and damage the device

- If mounting on a wall, check that the analyzer is fully hooked into the wall holder unit at the top and bottom, and secure the analyzer to the upper wall holder unit using the securing screw.

The mounting materials required to secure the device to the wall are not supplied.

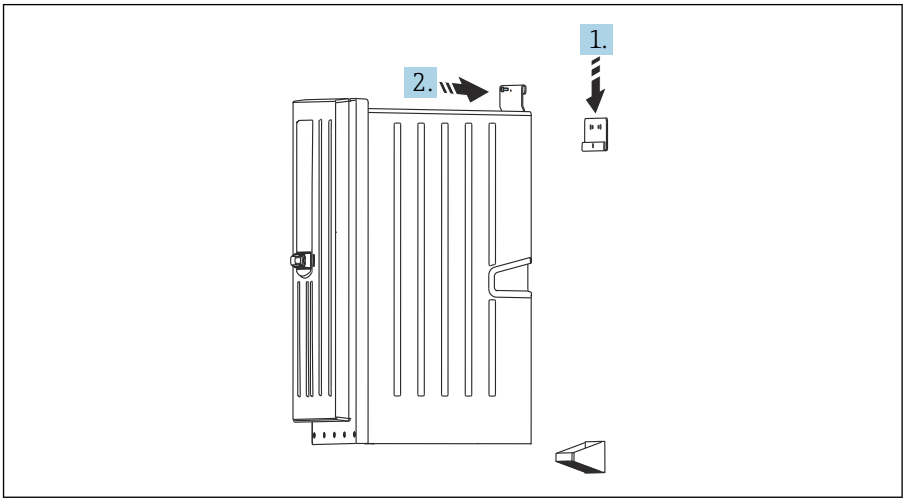
1. Provide the mounting materials to secure the device to the wall (screws, wall plugs) onsite.
2. Mount the wall holder unit (2 parts) on the wall.

3.



Secure the mount on the housing.

4.



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Hook the analyzer into the wall holder unit (1).

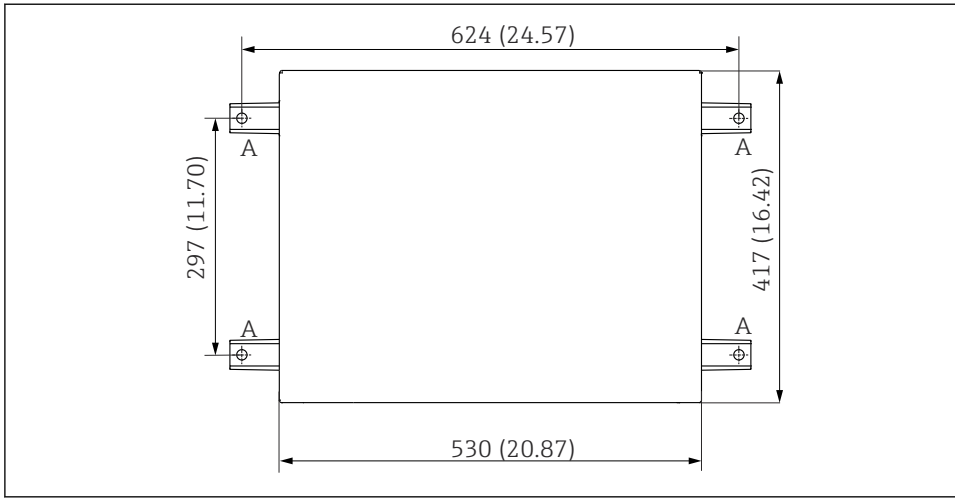
5. Fix the mount and wall holder unit in place with the screw supplied (2).

4.2.2 Installing version with analyzer stand

⚠ CAUTION

Incorrect installation can cause injury and damage the device

- If using the version with analyzer stand, make sure that the analyzer stand is secured to the floor.



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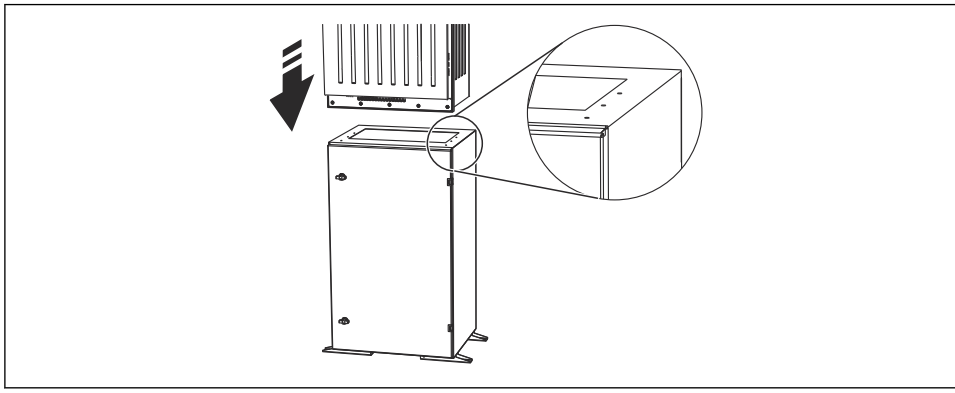
9 Foundation plan

A Fasteners (4 x M10)
--- Dimensions of Liquiline System CA80



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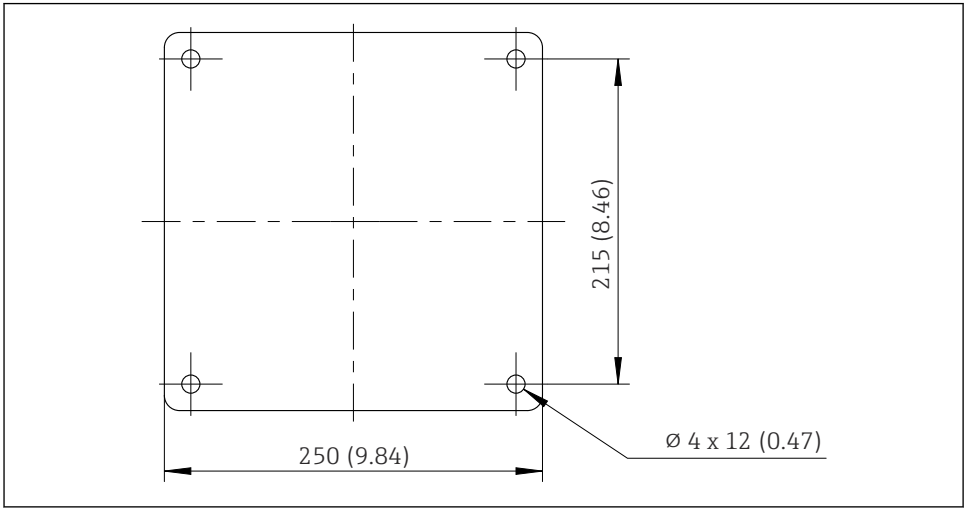
10 Securing the base

1. Screw the base to the ground.
2. With 2 people, lift the analyzer and fit it on the base. Use the recessed grips.
3. Secure the base to the analyzer using the 6 screws supplied.

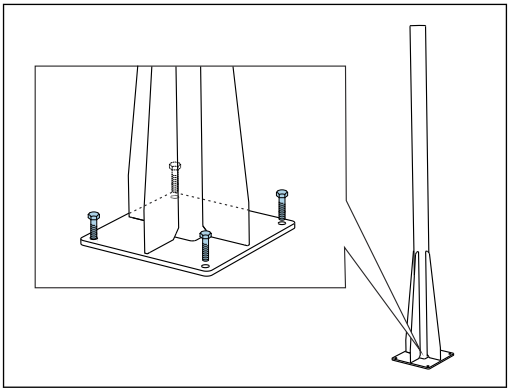
4.2.3 "Outdoor" version: mounting on a post

Erecting the post



11 *Foundation plan, dimensions in mm (in)*

When installing outdoors, consideration must be given to providing correct protection against lightning.

1. Prepare the foundation at the place of installation.
2. 

   Erect the post and mount it securely on the foundation using 4 fixing screws (*to be provided by the customer* [1]).

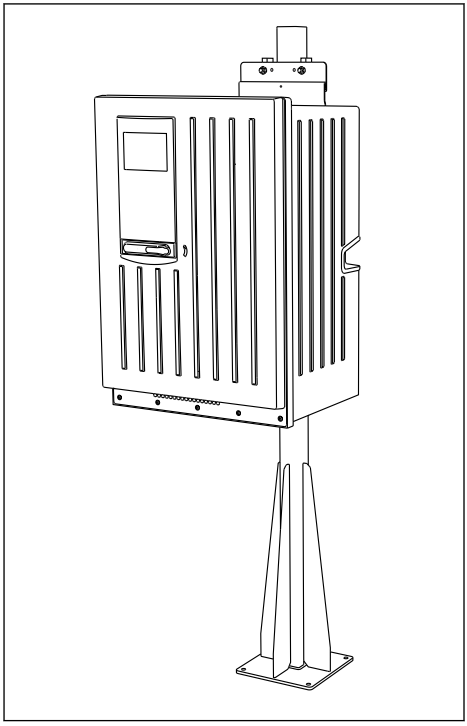
1) We recommend: hexagonal-headed bolt with a shaft, DIN 931: M10x100 with A2 quality + washer + suitable plug

Tool required for post mounting

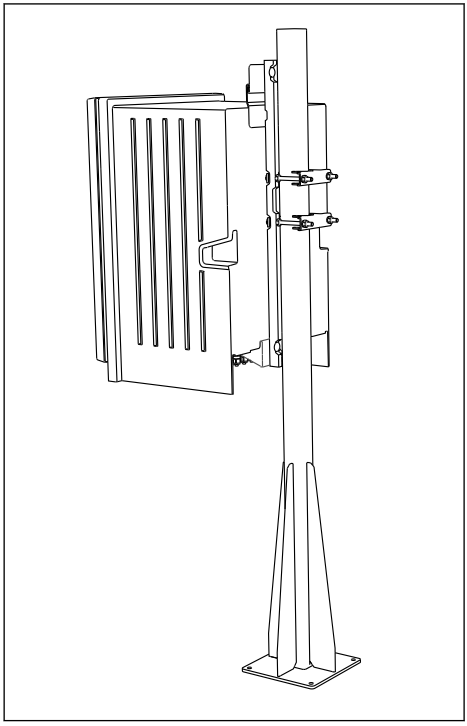
The following tools, which must be provided by the customer at the point of installation, are required to mount the analyzer on the post:

- Open-end wrench, 17mm AF (for post retainer)
- Torx screwdriver TX45 (for analyzer wall holder unit, Torx M8x20 screws)
- Torx screwdriver TX25 (for securing the wall holder unit on the post holder, Torx M5x12 screw)

Mounting analyzer on the post

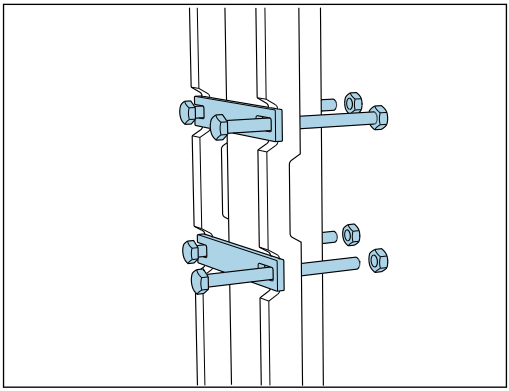


12 *Analyzer mounted on post (from front)*



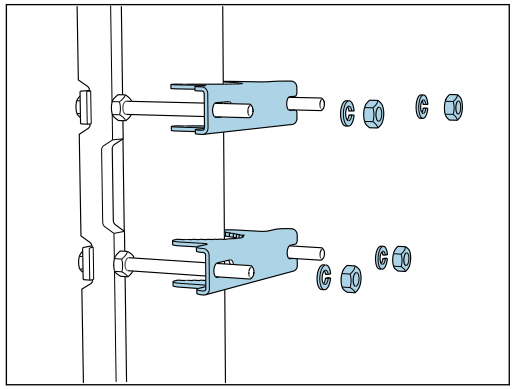
13 *Analyzer mounted on post (from behind)*

1.



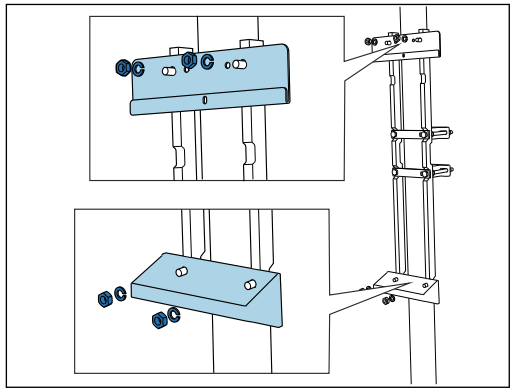
Fit the clamp of the post retainer on the retaining rods and post using the nuts.

2.



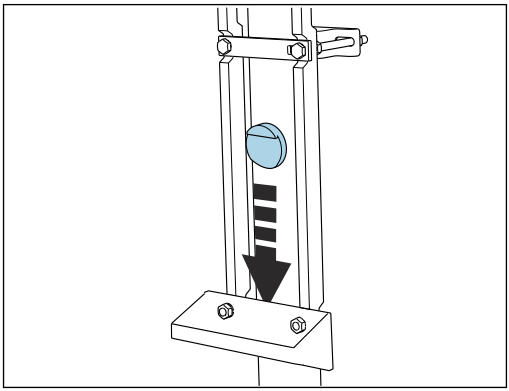
Fit the counterparts and fasten the post retainer using spring washers and nuts.

3.



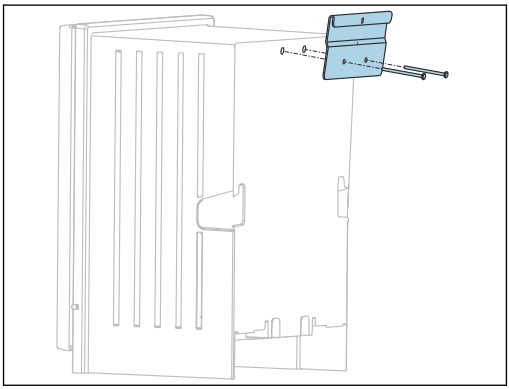
Mount the wall holder unit (included in the delivery with the analyzer) on the post retainer.

4.



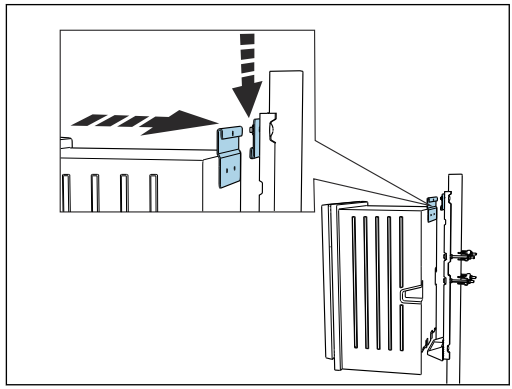
Insert the spacer.

5.



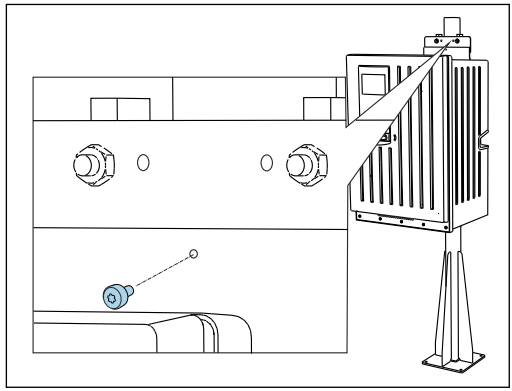
Screw the suspension bracket of the wall holder unit (included in the delivery with the analyzer) onto the analyzer.

6.



Hook in the analyzer.

7.



Fix the upper wall holder unit in place with the screw provided.

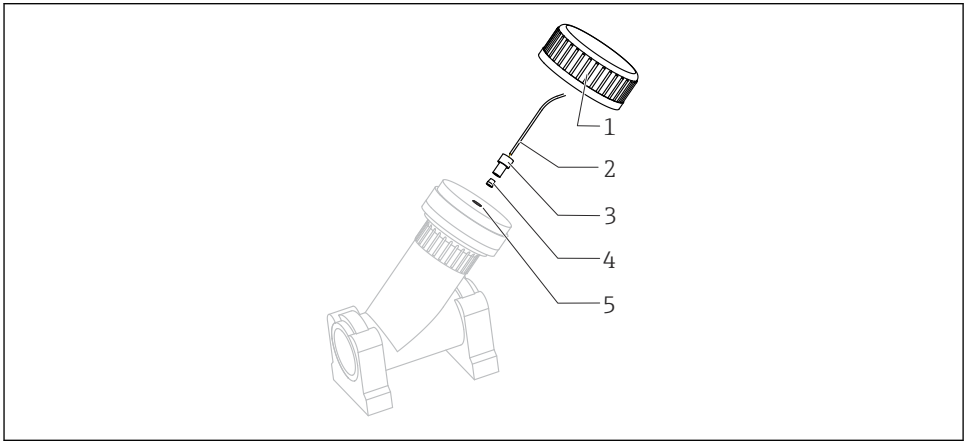
4.2.4 Mounting the Y strainer (optional)

The Y strainer is designed to directly tap particle-laden samples from pipes. This makes it possible to determine the COD. Here, it is necessary to include particles up to a defined size in the measurement.

Mounting materials are not supplied.

- ▶ Provide the mounting materials onsite.

Mounting the Y strainer on an even surface



14 *Y strainer*

1 *Union nut*
2 *Hose to analyzer*
3 *Threaded joint*
4 *Ferrule*
5 *Threaded borehole*

1. Mount the Y strainer on the pipe clamps on an even surface.
2. Align the Y strainer.

Sticking the adhesive fittings

3. Clean the adhesive surfaces (tube end on outside, sleeve or angle piece on inside) with a cleaning cloth.
4. Allow the cleaned surfaces to dry for approx. 5 minutes.
5. Apply the glue evenly (closed adhesive layer) to the surfaces (first sleeve, then pipe).
6. Join the parts together immediately (screw them together as far as possible).
7. Remove any surplus glue.
8. Allow the glue on the glued parts to set for at least 24 hours before running sample through the system.

Securing the sample hose

9. Turn the union nut to remove it.
10. Secure the threaded joint and ferrule supplied on the hose to the analyzer.
11. Screw the hose with the ferrule and threaded joint into the threaded borehole.
12. Turn the union nut to secure it.

4.3 Post-installation check

After mounting, check all the connections to ensure they are secure.

5 Electrical connection

⚠ WARNING

Device is live!

Incorrect connection may result in injury or death!

- The electrical connection may be performed only by an electrical technician.
- The electrical technician must have read and understood these Operating Instructions and must follow the instructions contained therein.
- **Prior** to commencing connection work, ensure that no voltage is present on any cable.

- Before establishing the electrical connection, verify that the pre-installed power cable meets the local national electrical safety specifications.

5.1 Connection conditions

5.1.1 Cable types

Power supply cable A power supply cable is not supplied for the "Outdoor" version!	Power supply cable with safety plug Cable length 4.3 m (14.1 ft)
Mains voltage	The maximum mains voltage fluctuation may not be more than ±10% of the values indicated on the nameplate.
Analog, signal and transmission lines	e.g. LiYY 10 x 0.34 mm^2

5.1.2 "Outdoor" version

NOTICE

Harmonic waves at the feed-in point of the device supply voltage

Higher radiation values

- Avoid harmonic waves at the feed-in point of the device or limit them by connecting a mains filter upstream, for example.

5.2 Connecting the analyzer

NOTICE

The device does not have a power switch

- You must install the device near (distance < 3 m (10 ft)) an easily accessible and fused plug socket so that it can be disconnected from the power supply.

- Comply with the instructions for protective grounding when installing the analyzer.

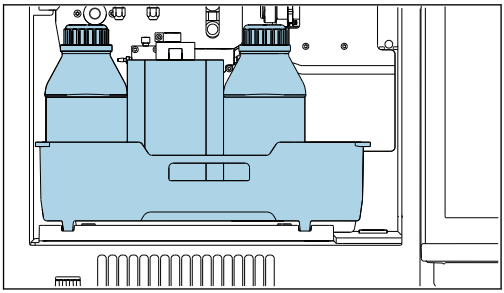
5.2.1 Routing the cable in the connection compartment

The analyzer is supplied with a pre-installed power cable. (Not in the case of the "Outdoor" version)

- For cabinet versions, the cable length is approx. 4.3 m (14.1 ft) from the base of the housing.
- For analyzer stands, the cable length is approx. 3.5 m (11.5 ft) from the foundation.

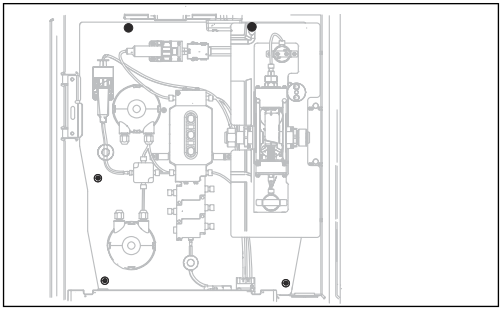
Connection of analog inputs and outputs, Memosens sensors or digital fieldbuses

1.



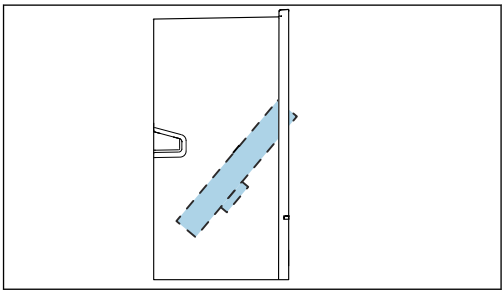
Remove the bottle tray: Lift up the recessed grip slightly and pull it towards the front.

2.



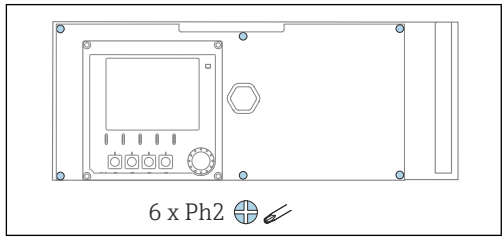
Release the 5 screws on the carrier board using a Torx screwdriver (T25).

3.



Fold out the carrier board towards the front .

4.

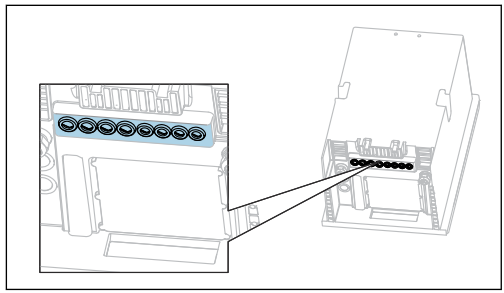


Release the 6 screws on the electronics compartment cover using a Phillips-head screwdriver and fold out the cover towards the front.

5. **Only for order versions with G or NPT glands:**

Replace the pre-installed M-thread cable glands with the G or NPT cable glands that are enclosed. This does not affect the M32 hose glands.

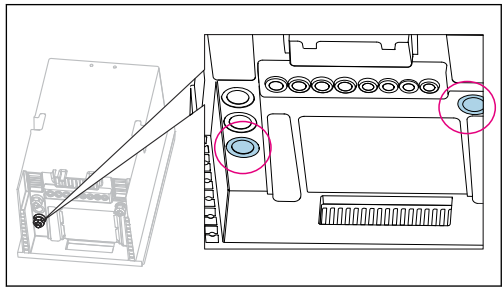
6.



Guide the cables through the cable glands on the bottom of the device.

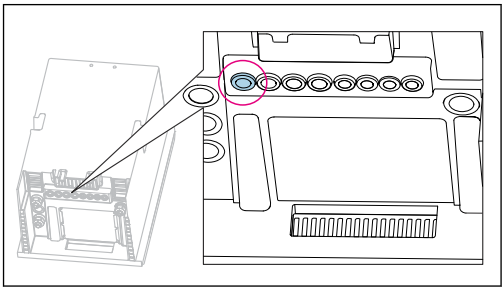
Only for the "Outdoor" version

7.



Guide the heated waste hose (left in the graphic) and the heated sample hose (right in the graphic) through the cable glands indicated.

8.



Guide the power supply cable, which is provided by the customer at the installation location, through the cable gland indicated.

For all versions

9. Route the cables on the rear panel of the device so that they are properly protected. Use cable clips.
10. Guide the cable to the electronics compartment.

After connecting:

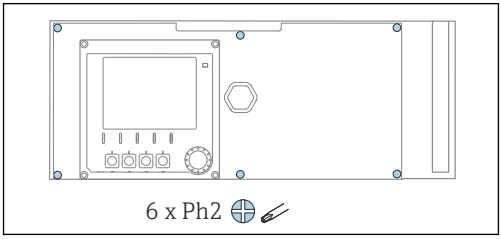
1. Secure the electronics compartment cover with the 6 screws.
2. Fold up the carrier board and use the 5 screws to secure it after connecting.
3. Tighten the cable glands on the bottom of the device to secure the cables.
4. Place the bottle tray back into the housing.

5.2.2 "Outdoor" version: connecting the power supply and hose heater

The power supply cable is not included with the delivery and must be provided by the customer.

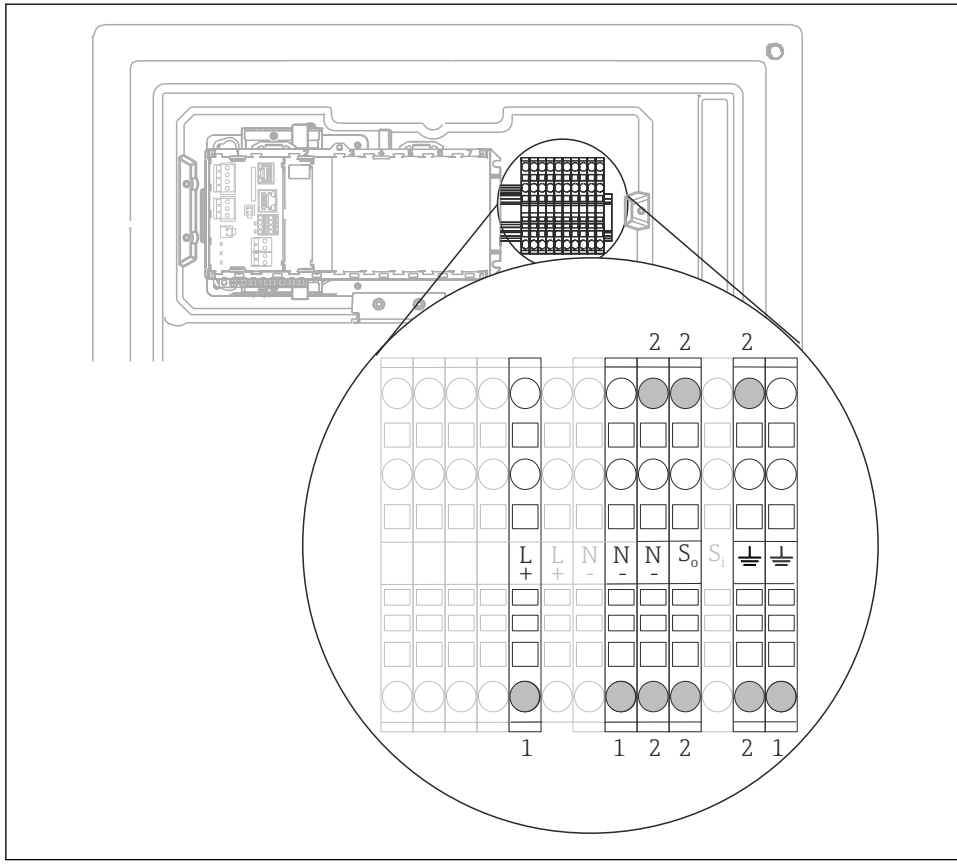
1. Guide the power supply cable and the two cables of the hose heaters from below through the cable gland on the inner rear panel of the device and feed them up into the electronics compartment (→ 27).

2.



Release the 6 screws on the electronics compartment cover using a Phillips-head screwdriver and fold out the cover towards the front.

3. Connect the cable.



15 *Terminal assignment for the "Outdoor" version*

1 *Terminals for power supply*
2 *Terminals for hose heater (2x)*

5.3 Ensuring the degree of protection

Only the mechanical and electrical connections which are described in these instructions and which are necessary for the required, designated use, may be carried out on the device delivered.

▶ Exercise care when carrying out the work.

Individual types of protection permitted for this product (impermeability (IP), electrical safety, EMC interference immunity, Ex protection) can no longer be guaranteed if, for example :
- Covers are left off
- Different power units to the ones supplied are used
- Cable glands are not sufficiently tightened (must be tightened with 2 Nm (1.5 lbf ft) for the permitted level of IP protection)
- Unsuitable cable diameters are used for the cable glands
- Modules are not fully secured
- The display is not fully secured (risk of moisture entering due to inadequate sealing)
- Loose or insufficiently tightened cables/cable ends
- Conductive cable strands are left in the device

5.4 Post-connection check

⚠ WARNING

Connection errors

The safety of people and of the measuring point is at risk! The manufacturer does not accept any responsibility for errors that result from failure to comply with the instructions in this manual.

▶ Put the device into operation only if you can answer **yes** to **all** the following questions.

Device condition and specifications

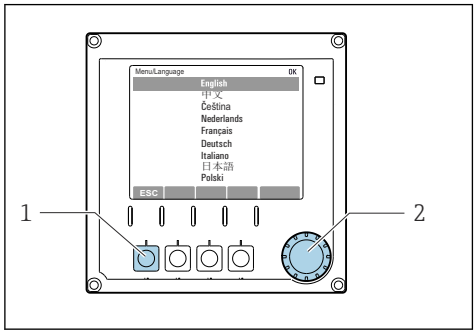
▶ Are the device and all the cables free from damage on the outside?

Electrical connection

▶ Are the mounted cables strain relieved?
▶ Are the cables routed without loops and cross-overs?
▶ Are the signal cables correctly connected as per the wiring diagram?
▶ Are all plug-in terminals securely engaged?
▶ Are all the connection wires securely positioned in the cable terminals?

6 Operation options

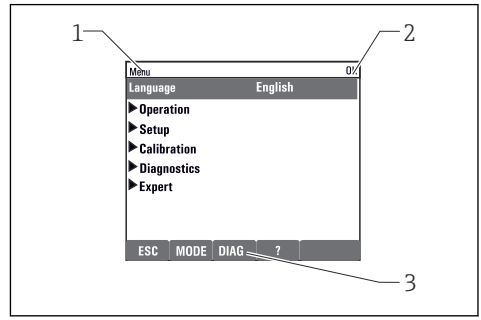
6.1 Structure and function of the operating menu



A0036773

16 *Display (example)*

1 *Soft key (press function)*
2 *Navigator (jog/shuttle and press/hold function)*



A0040682

17 *Display (example)*

1 *Menu path and/or device designation*
2 *Status indicator*
3 *Assignment of soft keys, ESC: Go back, MODE: Fast access to frequently used functions, DIAG: Link to Diagnostics menu ?: Help, if available*

7 Commissioning

Before the supply voltage is applied

On account of the device design, high switch-on currents occur when the device is commissioned at low temperatures. The power value indicated on the nameplate refers to the power consumption after one minute of operation when the device is commissioned at 5 °C (41 °F).

- **"Outdoor" version only:** To avoid overloading the power cable or triggering the mains fuse, only commission the device at temperatures ≥5 °C (41 °F).

Activities while the analyzer is in operation

Risk of injury and infection from medium!

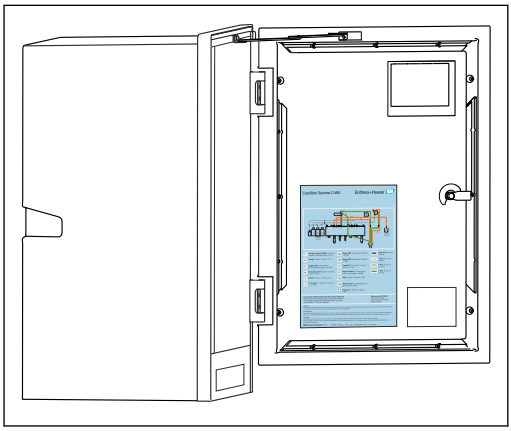
- Before you release any hoses, make sure that no actions, such as the pumping of sample, are currently running or are due to start shortly.
- Wear protective clothing, goggles and gloves or take other suitable measures to protect yourself.
- Wipe up any spilt reagent with a disposable tissue and rinse with clear water. Then dry the cleaned areas with a cloth.

7.1 Preparatory steps

7.1.1 Commissioning steps

1. Connect the liquid-bearing hoses of the sample supply system.→ 🖹 33
2. Visually inspect all the hose connections to ensure everything is correct. Use the hose connection diagram→ 🖹 32.
3. Insert the bottles and make the most important menu settings.→ 🖹 35
4. Start commissioning via the menu.→ 🖹 36

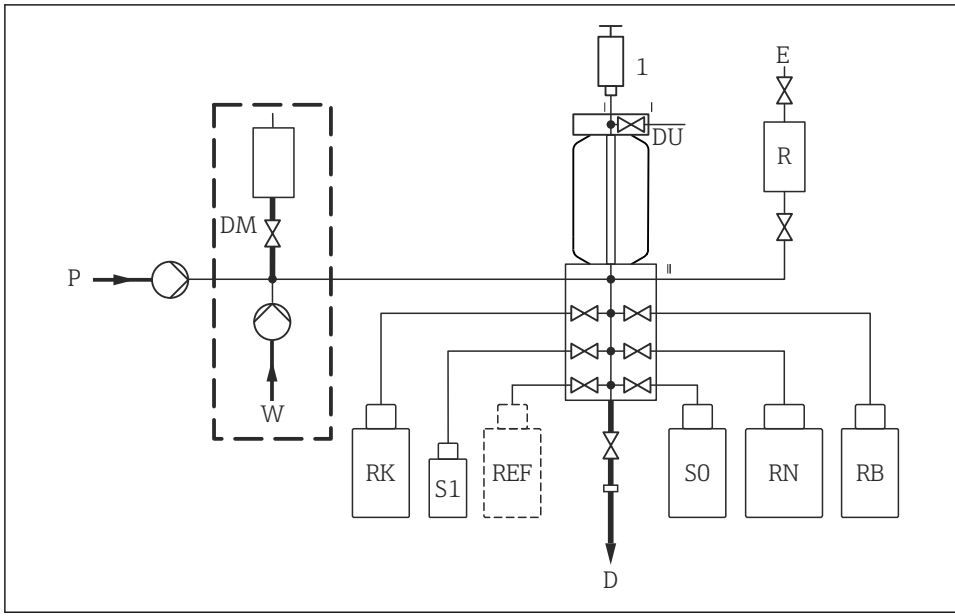
7.1.2 Hose connection diagram



18 Hose connection diagram

The diagrams below reflect the status at the time of issue of this documentation. The hose connection diagram that applies for your device version is provided on the inside of the door of the analyzer.

- Only connect the hoses as specified in this diagram.



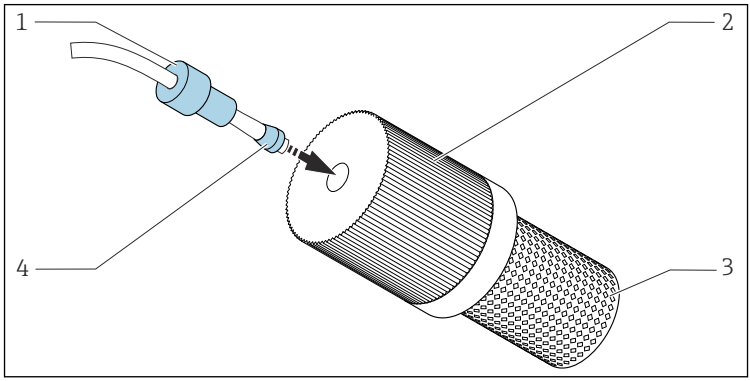
19 *Liquiline System CA80COD*

P	*Sample*	*D*	*Outlet*
DM	*Dilution module (optional)*	*S0*	*Zero standard 0*
W	*Water for optional dilution module*	*RN*	*Reagent RN*
RK	*Reagent RK*	*RB*	*Reagent RB*
S1	*Standard 1*	*E*	*Ventilation*
DU	*Dosing unit*	*R*	*Pressure reactor*
1	*Dispenser*	*REF*	*C*

7.1.3 Connecting the sample inlet hose

1. Ensure a constant and sufficient supply of sample at the installation location.
2. Connect the intake hose supplied to the peristaltic pump ("sample", → hose connection diagram) and guide it through the hose gland of the analyzer to the outside.

3.



20 Mounting the suction strainer (supplied) on the sample hose

Fit the gland (1) and cone (4) onto the hose in the direction indicated and screw into the adapter (2) of the suction strainer (3) together with the hose.

4. Insert the suction strainer into the sampling unit.

5. Ensure that only sample that is aqueous and homogenized is supplied, as otherwise there is a risk of blockage.

7.2 Function check

⚠ WARNING

Incorrect connection, incorrect supply voltage

Safety risks for staff and device malfunctions!

- ▶ Check that all connections have been established correctly in accordance with the wiring diagram.
- ▶ Ensure that the supply voltage matches the voltage indicated on the nameplate.
- ▶ Ensure that the reactor's safety cover is undamaged and installed correctly.

⚠ WARNING

Connection errors

The safety of people and of the measuring point is under threat. The manufacturer does not accept any responsibility for errors that result from failure to comply with the instructions in this manual.

- ▶ Put the device into operation only if you can answer **yes** to **all** the following questions.

Device condition and specifications

- ▶ Are the hoses free from damage on the outside?

Pressure reactor

- ▶ Have all of the reactor's connections been installed correctly?
- ▶ Has the reactor's safety cover been installed?

Visual inspection of the liquid-bearing lines

- ▶ Check the hose connections using the hose connection diagram.

- Is the suction line connected to the peristaltic pump?
- Is the dispenser correctly inserted?
- Can the dispenser move freely?
- Are all the hose connections leak-tight?
- is the sample hose in the hose gland strain-relieved?
- Have the bottles with reagents, and standard been inserted and connected?

7.3 Switching on the measuring device

1. Connect the power supply.
2. Wait for the initialization to finish.

7.4 Access to the configuration (only versions CA80COD-HR)

Enabling access to the configuration

Only authorized persons may make settings on the device. Access is password-protected.

1. Call up: **MENU/Enter maintenance level**.
2. Enter 8888 as the password.
   ↳ Access is enabled and you can change the settings.
3. Change the password to a new, secure password: **MENU/General settings/Extended setup/Data management/Change maintenance level password**.

If you forget your password, you can reset it here using the PUK supplied: **Reset password with PUK**.

Locking access to the configuration

- Call up: **MENU/Exit maintenance level**.
  ↳ Access is locked again and you cannot change any settings.

7.5 Setting the operating language

Configuring the language

1. Press the soft key: **MENU**.
2. Set your language in the top menu item.
   ↳ The device can now be operated in your chosen language.

7.6 Configuring the measuring device

7.6.1 Basic setup analyzer

Making basic settings

1. Switch to the menu **Setup/Basic setup analyzer**.
   ↳ Make the following settings.

- Device tag
  Give your device any name of your choice (max. 32 characters).
- Set date
  Correct the set date if necessary.
- Set time
  Correct the set time if necessary.

2. Insert the bottles and activate the bottles used in the menu: **Bottle insertion/Bottle selection**.
3. Check the concentration of the calibration standard used: **Calibration/Settings/ Nominal concentration**.
4. Optionally, also change the measuring interval: **Measurement/Measuring interval**.
   ↳ All the other settings can be left in the default factory settings for the time being.
5. Return to the measuring mode: press and hold the soft key for **ESC** for at least one second.
   ↳ Your analyzer now works with your general settings. Optionally connected sensors use the factory settings of the specific sensor type and the individual calibration settings that were last saved.

If you want to already configure additional input and output parameters in the **Basic setup analyzer**:

▶ Configure the current outputs, relays, limit switches and device diagnostics with the following submenus.

7.6.2 Starting commissioning

Starting initial commissioning

1. Select: **Menu/Operation /Maintenance/Commissioning/Start commissioning**.
   ↳ When commissioning is finished, the device displays the following message: **The operation was successful.**
   If the action was not successful or was canceled, the device displays a message with remedial measures. Implement the corrections and repeat the commissioning.
2. Directly after starting commissioning:
   Press **MODE** and switch to the automatic mode.
   ↳ After the commissioning has been completed successfully, zero point calibration starts automatically; this is followed by the determination of the calibration factor and then the first measurement.

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